

CHARGE NUMBER: 4008  
PROJECT TITLE: SMOKER SIMULATION STUDIES  
PERIOD COVERED: April 2 - April 30, 1973  
DATE OF REPORT: May 3, 1973  
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I. DATA COLLECTION

A. Upgrading

Additional recording units have been prepared to facilitate subject data collection. Furthermore, the Engineering Services Division is producing a series of cigar tips and severed filter tip holders to accommodate various types of cigarets for the recording of human smoking patterns. To date, the general data collection program contains smoking profile information on 40 subjects.

B. Smoking Pattern Results

1. Controlled Profile Cigaret (CP) vs. Control Cigaret

This test was conducted using five smokers. Each smoker smoked five CP cigarets and five control cigarets in random order. Statistical analysis of the data indicates that the smokers adjusted their volume to compensate for the difference in puff-by-puff delivery between the two cigarets. This adjustment may be subconscious because prior subjective testing of these two cigarets has shown that the panelists were unable to detect differences. (A separate report will be issued.)

2. Filter vs. Non-Filter Study

This test is being conducted by the Subjective Evaluation Facility. A complete report will be issued when the computer analysis is available.

3. Low Delivery Marlboro (14 mg Tar) vs.  
Marlboro (22 mg Tar)

This study is also being run by SEF with tentative completion data of June 1, 1973.

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## II. HUMAN SMOKING SIMULATOR

During the major part of this reporting period, mechanical problems with the simulator prevented the collection of puff-by-puff TPM data. These difficulties should be resolved soon, due to the excellent cooperation from the Engineering Services Division.

However, the mechanical problems with the simulator did not preclude system checking in terms of individual port smoking performance. Puff reproduction and accuracy were evaluated. Results indicate that high flow rate puffs are handled satisfactorily by the simulator but a loss in volume occurs on low flow rates, such as those represented by the C.I. puff-by-puff machine used as a calibration source. A decision will be made in the near future whether to locate the source of the volume loss or whether to compensate for it in the command tape.

The Computer Services Group prepared a command tape with three different puff shapes which will be used when the simulator is operable, to determine the effect of puff shape on TPM delivery.

## III. PLANS

- A. Correct or compensate for the low flow rate puffs on the simulator.
- B. Continue data collection studies with the incorporation of TPM intake when the simulator is operable.

## IV. REFERENCES

Notebook 6121, Pages 68-83.

Computer Records - Project Title "Smoker Simulation Studies"

  
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